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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
LUNDGREN, JEFFREY S	
ART UNIT	**PAPER NUMBER**
1639	

DATE MAILED: 10/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/812,044	SELF ET AL	
	Examiner	Art Unit	
	Jeff Lundgren	1639	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 July 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 15-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 15-23* is/are rejected.

7)☒ Claim(s) *15-18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of the Claims

Claims 1 and 15-23 are pending in the instant application. Applicants have amended the claims such that the claims no longer read on the elected species of 2-nitrobenzyloxycarbonyl (claims 15-18), which was elected in Applicants' Reply to Restriction Requirement filed on June 13, 2005. Accordingly, claims 15-18 are objected to for being directed to a non-elected species. Correction is required.

Priority

Applicants' application was filed on March 29, 2004, and was filed after the time period set forth in 37 C.F.R. § 1.78(a)(2)(ii) for claiming priority to applications PCT/GB94/02359 and British Application No. 9322156.2. Applicants' priority claim to applications PCT/GB94/02359 and British Application No. 9322156.2 is therefore improper, and is denied. See 37 C.F.R. § 1.78(a)(2)(ii):

> (ii) This reference must be submitted during the pendency of the later-filed application. If the later-filed application is an application filed under 35 U.S.C. 111(a), this reference must also be submitted within the later of four months from the actual filing date of the later-filed application or sixteen months from the filing date of the prior-filed application. If the later-filed application is a nonprovisional application which entered the national stage from an international application after compliance with 35 U.S.C. 371, this reference must also be submitted within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371 (b) or (f) in the later-filed international application or sixteen months from the filing date of the prior-filed application. These time periods are not extendable. Except as provided in paragraph (a)(3) of this section, the failure to timely submit the reference required by 35 U.S.C. 120 and paragraph (a)(2)(i) of this section is considered a waiver of any benefit under 35 U.S.C. 120, 121, or 365(c) to such prior-filed application. The time periods in this paragraph do not apply if the later-filed application is:
>
> (A) An application for a design patent;
>
> (B) An application filed under 35 U.S.C. 111 (a) before November 29, 2000; or

> (C) A nonprovisional application which entered the national stage after compliance with 35 U.S.C. 371 from an international application filed under 35 U.S.C. 363 before November 29, 2000.

The specification is objected to for an improper priority claim. Applicants are required to amend the specification deleting reference to the aforementioned applications in the first sentence of the specification in compliance with 37 CFR § 1.78(a) by filing an amendment to the first sentences of the specification. *See* MPEP § 201.11.

Claim Rejections - 35 USC § 101

The rejection of claims 15-18 35 U.S.C. § 101 is withdrawn in view of Applicants amendment to the claims.

Concurrently, the objection to the claims under 37 C.F.R. § 1.75 is also withdrawn in view of Applicants' amendment to the claims.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Maintained Rejections:

The rejection of claim 15 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, is maintained.

Claim 15 is still considered indefinite for reciting the claim language "such as" because it is not clear if the limitations following the phrase are part of the claim or not. Correction is required.

Withdrawn Rejections:

All previous rejections under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regards as the invention, are withdrawn in view of Applicants' amendments to the claims.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 15, 16 and 18 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Applicants amendment to the chemical structures in claims 15 and 18 is considered new matter (changing the carbonyl oxygen bound to a hydrogen, to a "conventional" carbon-bound hydroxyl); Applicants amendments to the Markush members in claims 15 (*i.e.*, C<u>H</u>(R_5)OH-) and 18 are considered new matter. There is no support for these structures or Markush members in the specification.

Applicants are reminded that it is their burden to show where the specification supports any amendments to the claims. See 37 CFR 1.121 (b)(2)(iii), the MPEP 714.02, 3rd paragraph, last sentence and also the MPEP 2163.07, last sentence.

MPEP 2163.06 notes "If new matter is added to the claims, the examiner should reject the claims under 35 U.S.C. 112, first paragraph - written description requirement. In re Rasmussen, 650 F.2d 1212, 211 USPQ 323 (CCPA 1981)." MPEP 2163.02 teaches that "Whenever the issue arises, the fundamental factual inquiry is whether a claim defines an invention that is clearly conveyed to those skilled in the art at the time the application was filed...If a claim is amended to include subject matter, limitations, or terminology not present in the application as filed, involving a departure from, addition to, or deletion from the disclosure of

the application as filed, the examiner should conclude that the claimed subject matter is not described in that application. MPEP 2163.06 further notes "When an amendment is filed in reply to an objection or rejection based on 35 U.S.C. 112, first paragraph, a study of the entire application is often necessary to determine whether or not "new matter" is involved. Applicant should therefore specifically point out the support for any amendments made to the disclosure.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Maintained Rejections:

The rejection of claims 1 and 15-23 under 35 U.S.C. 102(b) as being anticipated by each of: Eby R., *Carbohydrate Research 70(1)*:75-82 (**1979**); Thompson *et al.*, *Biochemical and Biophysical Research Communications 201(3)*:1213-1219 (**1994**), and Goldmacher *et al.*, *Bioconjugate Chemistry 3(2)*:104-7 (**1992**), are all maintained.

Applicants contend that the rejections are moot in view of their amendment to the specification claiming priority to PCT/GB94/02359 and British Application No. 9322156.2, thereby removing the cited art as prior art. Applicants also content that their amended claims no longer read on the prior art. Both arguments have been fully considered, however neither is persuasive.

First, Applicants' are not entitled to priority of applications PCT/GB94/02359 and British Application No. 9322156.2 for the reasons set forth above.

Second, Applicants claims still read on the art of record for the reasons provided in the following rejections below.

Claim 1 is directed to a composition, wherein the composition comprises a core molecule having one or more active sites, and a plurality of smaller labile residues reversibly attached to the core molecule. The attachment of the labile residues causes an alteration in the core's binding, and the labile residue is dissociable under electromagnetic energy, such that the active

site regains activity. Claims 15-18 depend from claim 1, and are directed to certain labile residues defined by generic chemical formulae. Claims 20 and 21 specify that the labile residue is 2-nitrobenzyloxycarbonyl. The elected species, nitrophenyl ethanol and/or the conjugate it forms upon reaction to the core molecule, is encompassed by each of claims 15-18, 20 and 21. Claim 19 is similar to claim 1, but specifies the core as an antibody. Claims 22 and 23 limit the electromagnetic radiation to visible or UV light.

Claims 1 and 15-23 are anticipated by Eby:

Eby teaches an oligosaccharide (*i.e.*, core molecule) modified with 2-(4-nitrophenyl)ethanol (*i.e.*, smaller labile residues) on multiple active sites (pages 76 and 77), and teaches that the activity of modified active sites effects activity, *i.e.*, the nonterminal residues along the dextran chain (page 78), and the residues have the property of being labile under electromagnetic energy and that reversibly restore the oligosaccharide activity with its antibody, as required by claims 1 and 19. The 2-(4-nitrophenyl)ethanol used by Eby is within the scope of claims 15-18. The labile residue that forms a part of the composite is 2-nitrobenzyloxycarbonyl, as required by claims 20 and 21, and the composite is sensitive to UV light, as required by claims 22 and 23. Although the "labile" 2-(4-nitrophenyl)ethanol is not directly bound to the antibody, each of the claims read on Eby.

Claims 1 and 15-23 are anticipated by Thompson:

Thompson teaches methods to allow the reversible binding of up to 15 nitrobenzyl residues per bovine serum albumin mol. and show 95% of these residues can be removed by exposure to UV light for 10 minutes. Thompson not only teaches that the general non-specific coating method can be presented by a model system, but is applicable to a wide range of proteins with important biological functions. Potentially, any protein could be coated with sufficient photo-removable groups to inhibit its biological function. Thompson teaches that the activity may then be restored at will by exposure to UV light removing the coupled 2-nitrobenzyl groups.

Claims 1 and 15-23 are anticipated by Goldmacher:

Goldmacher teaches a novel photocleavable protein cross-linking reagent that has been used for conjugation of the ribosome-inactivating protein pokeweed antiviral protein from seeds of *Phytolacca americana* (PAP-S), with either the monoclonal antibody 5E9 directed against the human transferrin-receptor or the B-chain of ricin that binds to cell-surface oligosaccharides bearing terminal D-galactose residues. When irradiated with near-UV light (350 nm), the linker of these conjugates undergoes photolytic degradation, resulting in the release of native toxin that is fully functional. The cytotoxicities of these 5E9-PAP-S and ricin B-chain-PAP-S conjugates for HeLa cells could be enhanced by irradiating the cells with light after they had internalized the conjugates. The labile residue is 2-(4-nitrophenyl)ethanol, and is bound to the antibody. Although the "labile" 2-(4-nitrophenyl)ethanol is not directly bound to the antibody, each of the claims read on Goldmacher.

Accordingly, claims 1 and 15-23, are anticipated by the art of record as indicated.

New Grounds of Rejection Necessitated by Amendment:

Claims 1 and 15-23, are rejected under 35 U.S.C § 102(b), as being anticipated by Bruckner et al., *Journal of Chromatography, A 697(1 & 2)*:295-307, (**1995**).

The limitations of the claims are recited above, and hereby incorporated by reference.

Bruckner teaches the cojugation of a compound having a 2-nitrobenzyloxycarbonyl structure (i.e., see compound b in Figure 1; page 299). This compound meets the property limitations of claims 1 and 15-23.

Conclusions

No claim is allowable.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

If Applicants should amendment the claims, a complete and responsive reply will clearly identify where support can be found in the disclosure for each amendment. Applicants should point to the page and line numbers of the application corresponding to each amendment, and provide any statements that might help to identify support for the claimed invention (*e.g.*, if the amendment is not supported *in ipsis verbis*, clarification on the record may be helpful). Should Applicants present new claims, Applicants should clearly identify where support can be found in the disclosure.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Jeff Lundgren whose telephone number is 571-272-5541. The Examiner can normally be reached on 8:30 AM to 5:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Andrew Wang can be reached on 571-272-0811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JSL

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